

75%, or 100%] of the bacterial cells contacted by the bacterial growth medium in said culture are contacted by said test compound.

38. (Amended) A method of stimulating formation of a biofilm by a population of bacteria, said method comprising at least one of the following steps: adding iron to the growth environment of said bacteria, such that the final concentration of said iron in said growth environment is at least 3  $\mu$ M; adding glutamate to the growth environment of said bacteria, such that the final concentration of said glutamate in said growth environment is at least 0.4%; adding citrate to the growth environment of said bacteria, such that the final concentration of said citrate in said growth environment is at least 0.4%; and stimulating expression of a *sad* gene or activity of a *sad* polypeptide.

Please add the following new claims 40 - 54.

40. (Newly added) The method of claim 22, wherein said step comprises inhibiting the synthesis or function of a *sad* polypeptide.

41. (Newly added) The method of claim 22, wherein said step comprises inhibiting protein synthesis in said bacterial cell.

42. (Newly added) The method of claim 22, wherein said step comprises

contacting said bacterial cell with a protease, wherein said contacting is sufficient to prevent said bacterial cell from participating in formation of a biofilm.

43. (Newly added) The method of claim 22, wherein said step comprises limiting the concentration of  $\text{Fe}^{2+}/\text{Fe}^{3+}$  in the environment of said bacterial cell, wherein the  $\text{Fe}^{2+}/\text{Fe}^{3+}$  concentration in said environment is limited to 0.3  $\mu\text{M}$  or less.

44. (Newly added) The method of claim 22, wherein said step comprises providing a high osmolarity environment to said bacterial cell, wherein said osmolarity of said environment is equivalent to or greater than the osmolarity of a solution containing 0.2 M NaCl or 15% sucrose.

45. (Newly added) The method of claim 22, wherein said step comprises adding mannose to the environment of said bacterial cell, such that the mannose concentration in said environment after the addition of said mannose is at least 15 mM.

46. (Newly added) The method of claim 22, wherein said step comprises adding  $\alpha$ -methyl-D-mannoside to the environment of said bacterial cell, such that the  $\alpha$ -methyl-D-mannoside concentration in said environment after the addition of said  $\alpha$ -methyl-D-mannoside is at least 15 mM.

47. (Newly added) The method of claim 38, wherein said step comprises adding iron to the growth environment of said bacteria, such that the final concentration of said iron in said growth environment is at least 3  $\mu$ M.

48. (Newly added) The method of claim 38, wherein said step comprises adding glutamate to the growth environment of said bacteria, such that the final concentration of said glutamate in said growth environment is at least 0.4%.

49. (Newly added) The method of claim 38, wherein said step comprises adding citrate to the growth environment of said bacteria, such that the final concentration of said citrate in said growth environment is at least 0.4%.

50. (Newly added) The method of claim 38, wherein said step comprises stimulating expression of a *sad* gene or activity of a *sad* polypeptide.

51. (Newly added) A method of screening for compounds that modulate biofilm formation, said method comprising:

- a) exposing a bacterial culture to a test compound, such that at least one bacterial cell in said bacterial culture are contacted by said test compound, and
- b) testing said bacterial culture for biofilm formation on an abiotic surface,

wherein a decrease in biofilm formation, relative to biofilm formation by a bacterial culture that has not been exposed to said test compound, indicates a compound that inhibits biofilm formation, and an increase in biofilm formation, relative to biofilm formation by a bacterial culture that has not been exposed to said test compound, indicates a compound that stimulates biofilm formation.

52. (Newly added) The method of claim 51, wherein said bacterial culture is a liquid bacterial culture.

53. (Newly added) The method of claim 51, wherein at least 5% of the bacterial cells contacted by the bacterial growth medium in said culture are contacted by said test compound.

54. (Newly added) The method of claim 51, wherein said bacterium is chosen from the group including: *Pseudomonas fluorescens*, *Pseudomonas aeruginosa*, *Escherichia coli*, *Vibrio parahaemolyticus*, *Salmonella typhimurium*, *Streptococcus mutans*, *Enterococcus* species, *Serratia marcescens*, *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Staphylococcus hominis*, *Staphylococcus haemolyticus*, *Staphylococcus warneri*, *Staphylococcus cohnii*, *Staphylococcus saprophyticus*, *Staphylococcus capitis*, and *Staphylococcus lugdunensis*.